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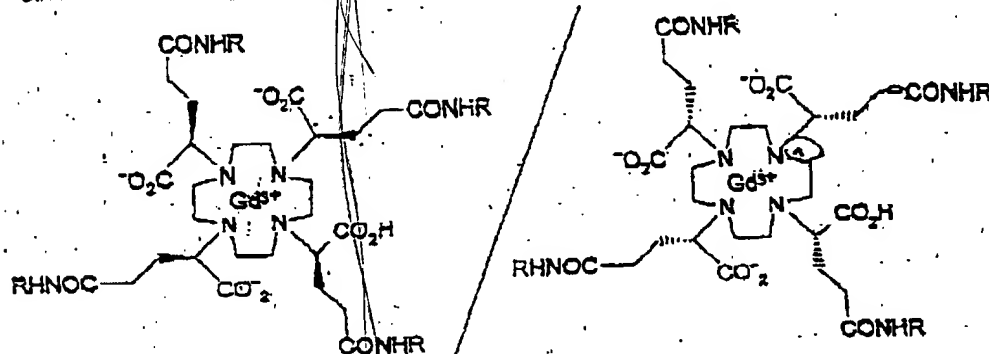
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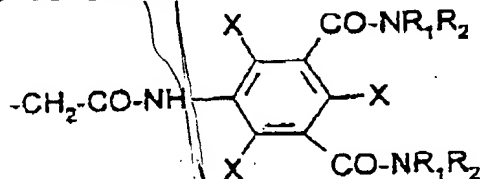
Claims

1. Contrast agent for medical imaging, characterized in that it comprises a racemic compound of formula A



in which R is a phenyl group or (C₁-C₈) alkyl group which are substituted or interrupted by one or more groups selected from phenyl, alkyl, oxy, amino or amido groups, which may or may not be substituted by alkyl, it being possible for the phenyl groups also to be substituted by OH, Br, Cl, I, (C₁-C₈)alkyl, (C₁-C₈)alkyleneoxy, NO₂, NR_xR_y, NR_xCOR_y, CONR_xR_y or COOR_x, R_x and R_y being (C₁-C₈)alkyl or H, and it being possible for the linear or branched or cyclic alkyl groups to be hydroxylated, and the salts of this acid with a physiologically acceptable inorganic or organic base.

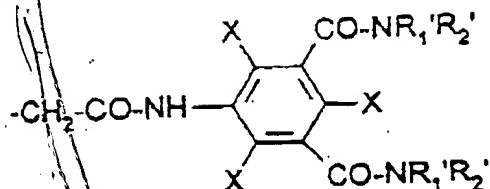
2. Contrast agent according to Claim 1, for which R is a group of formula



in which

X is Br or I, R₁ is H, (C₁-C₃)alkyl or (C₂-C₈)mono- or polyhydroxyalkyl and R₂ is (C₂-C₈)mono- or polyhydroxyalkyl, or else R₁ is H and R₂ is a group

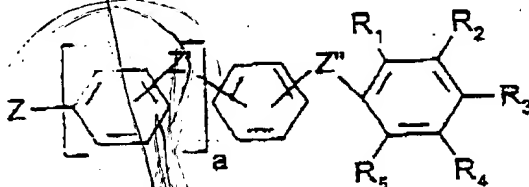
of formula



A.

X being as defined above and R₁' and R₂' taking any one of the meanings given for R₁ and R₂, with the exception of A, it being understood that -CO-NR₁R₂ or -CO-NR₁'R₂' comprise at least two hydroxyl groups, and its salts with a physiologically acceptable inorganic or organic base.

3. Contrast agent according to Claim 1, for which R is a group of formula



in which a is 1 or 2,

Z is a bond, CH₂, CH₂CONH or (CH₂)₂NHCO,

Z' is a bond, O, S, NQ, CH₂, CO, CO-NQ, NQ-CO, NQ-CO-NQ or CO-NQ-CH₂-CONQ,

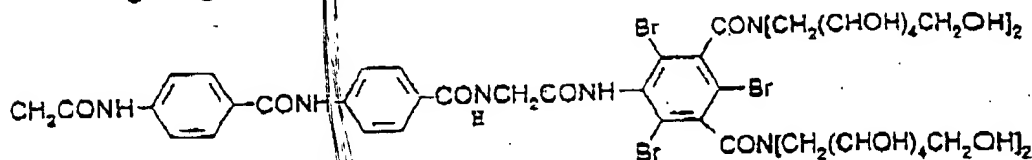
Z'' is CO-NQ, NQ-CO, CO-NQ-CH₂-CO-NQ or NQ-CO-CH₂-NQ-CO,

with Q being H or an optionally hydroxylated (C₁-C₄)alkyl group,

R₁, R₂, R₃, R₄ and R₅, independently of one another, are selected from H, Br, Cl, I, CO-NQ₁Q₂ or N(Q₁)-CO-Q₂, and Q₁ and Q₂, which are identical or different, are selected from optionally hydroxylated (C₂-C₆)alkyl groups optionally interrupted by an oxygen atom, so that Q₁ and Q₂ together comprise from 4 to 10 OH groups,

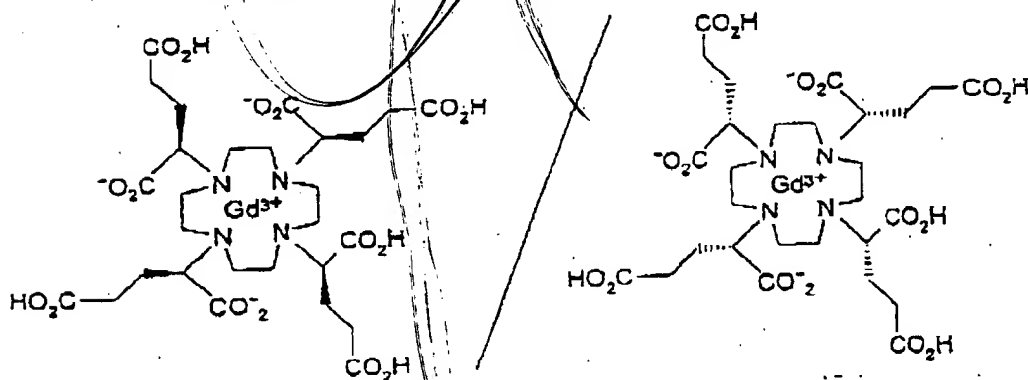
it being understood that at least 1 and at most 2 R₁, R₂, R₃, R₄ and R₅ groups are amide groups.

4. Contrast agent according to Claim 3, in which R is a group of formula



5. Process for the preparation of a racemic compound of formula A as defined in one of Claims 1 to 4, which consists:

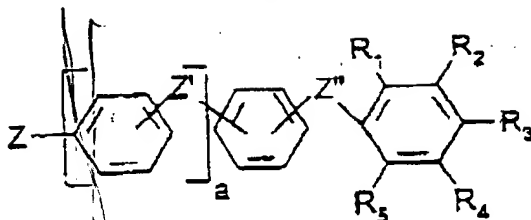
1 - in keeping an aqueous solution of the mixture of the stereoisomers of the gadolinium complex of 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetra(2-glutaric acid), with a pH of between 2 and 4.5, at a temperature of greater than 70°C for a few hours to a few days, so as to obtain the racemic mixture of octaacids of formula:



- 2 - in reacting this mixture with the amine RNH_2 , R being defined as in Claims 1 to 4, with an agent which activates the acid functional group.

6. Process according to Claim 5, in which the solution of complexed octaacid is maintained at its reflux temperature for 35 to 45 hours at pH 3.

7. Racemic compound, for which R is a group of formula



in which a is, 1 or 2,

Z is a bond, CH_2 , CH_2CONH or $(\text{CH}_2)_2\text{NHCO}$,

Z' is a bond, O, S, NQ, CH_2 , CO, CO-NQ, NQ-CO, NQ-CO-NQ or CO-NQ- CH_2 -CONQ,

Z'' is CO-NQ, NQ-CO, CO-NQ- CH_2 -CO-NQ or NQ-CO- CH_2 -NQ-CO,

with Q being H or an optionally hydroxylated (C₁-C₄)alkyl group,

R₁, R₂, R₃, R₄ and R₅, independently of one another, are selected from H, Br, Cl, I, CO-NQ₁Q₂ or N(Q₁)-CO-Q₂, and Q₁ and Q₂, which are identical or different, are selected from optionally hydroxylated (C₂-C₆)alkyl groups optionally interrupted by an oxygen atom, so that Q₁ and Q₂ together comprise from 4 to 10 OH groups, it being understood that at least 1 and at most 2 R₁, R₂, R₃, R₄ and R₅ groups are amide groups.

8. Racemic compound according to Claim 7, in which R is a group of formula

